

00492

**BACHELOR OF TECHNOLOGY IN
MECHANICAL ENGINEERING
(COMPUTER INTEGRATED
MANUFACTURING)**

Term-End Examination

June, 2011

BME-022 : SOFT COMPUTING IN CIM

Time : 3 hours

Maximum Marks : 70

Note : *Assume suitable missing data, if any.*

*Answer **any five** of the following.*

1. (a) Discuss the role of Expert System in Interactive Design Advisor. 7
- (b) What is cooperative in S.O.M (self - organising map) ? 7
2. (a) Explain application of fuzzy logic in Flexible Manufacturing System. 7
- (b) Explain application of Tabu - Search in outsourcing problem. 7
3. (a) Discuss application of Particle swarm optimisation algorithm in reliability optimisation problem. 7

- (b) What are the relative advantages and disadvantages of expert system over human expert ? 7
4. (a) Detail the step - wise implementation of simulated annealing to calculate the makespan value in FMS scheduling problem. 7
- (b) Discuss the application of AIS (Artificial Immune System) to assist an adaptive production control system. 7
5. (a) What are the merits and demerits of classical Petri Net modelling ? 7
- (b) What is meant by sequential execution within a Petrinet ? 7
6. (a) Discuss application of genetic algorithm in process planning problem. 7
- (b) Discuss ant colony optimisation algorithm in Travelling Salesman Problem. 7
7. (a) Discuss the application of neural network approach in a process plan problem. 7
- (b) Discuss application of ACO (Ant Colony Optimisation) for the process planning problem. 7
-